QUESTIONNAIRE PROCESS TECHNOLOGY

for trials in fluidized bed reactors

SCHWING TECHNOLOGIES

date of issue

CUSTOMER DATA

Company:	
Contact person:	
Department:	
Address:	
ZIP Code, City:	
Phone / Fax:	
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PROCESS ALREADY KNOWN?

☐ Yes ☐ No ☐ Conti ☐ Batch

Process description: ☐ Lab ☐ Production

Reactants come from:
(equipment)

Reactor type?
(currently in use)

Product goes to:
(equipment)

Off-gas goes to:
(equipment)

PROCESS PARAMETERS

Production:		kg/Batch		kg/h	or		MT/year
Type of reaction:	☐	calcination	☐	oxidation		☐	reduction
	☐	drying	☐	covering		☐	other:_____
Thermal effects:	☐	exothermic	☐	endothermic		☐	no effect
Input temperature:		°C	☐	unknown		☐	not fixed
Process temperature:		°C	☐	unknown		☐	not fixed
Output temperature:		°C	☐	unknown		☐	not fixed
Heat up rate:		°C/min.	☐	unknown		☐	not fixed
Cool down rate:		°C/min.	☐	unknown		☐	not fixed
Pressure:		barg	☐	unknown		☐	not fixed
Processing time:		hours	☐	unknown		☐	not fixed

MATERIAL PROPERTIES

	Starting material	End material
Name:		
Chemical formula:		
Specific gravity:	N/m³	N/m³
Bulk density:	kg/m³	kg/m³
Heat capacity (c_p):	kJ/kg/K	kJ/kg/K
Heat of reaction (ΔH):	kJ/kg	kJ/kg
Particle size:	Min. _____ µm Max. _____ µm	Min. _____ µm Max. _____ µm
D_{50} - mean particle size:	_____ µm	_____ µm

Starting material:	☐	flowing	☐	abrasive		☐	corrosive
	☐	dusty	☐	lumping		☐	explosive
Product:	☐	flowing	☐	abrasive		☐	corrosive
	☐	dusty	☐	lumping		☐	explosive

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TRIALS

Per trial the approx. quantities of test material are required:

Material for fluid trials:	4 lit. start material + 4 lit. product	Available?	☐ Yes	☐ No
Material for trials in Dip reactor:	6-8 liters of starting material	Available?	☐ Yes	☐ No
Material for trials in Pilot reactor:	60-80 liters of starting material	Available?	☐ Yes	☐ No
Material safety data sheets (MSDS):		Available?	☐ yes	☐ no

Fluidizing gases:
☐ air ☐ steam ☐ oxygen
☐ nitrogen ☐ carbon dioxide ☐ ammonia
☐ argon ☐ hydrogen ☐ others: _____

Analytics:

Miscellaneous information:

Objectives:

Target date:

COMMERCIAL PLANT PROJECT DATA

Year of implementation: _____

Place of installation:

Product quantity planned: _____ kg/batch _____ kg/h _____ MT/year

Material input device: ☐ screw feeder ☐ flanged nozzle ☐ pipe

Material of construction

Heating: ☐ electric ☐ natural gas ☐ others

Desired range of delivery:

COMPLEMENTARY SPECIFICATIONS